

## Electricity and Magnetism, United States, NIST (National Institute of Standards and Technology)

Calibration or Measurement Service			Measurand Level or Range			Measurement Conditions/Independent Variable		Expanded Uncertainty						
Quantity	Instrument or Artifact	Instrument Type or Method	Minimum value	Maximum value	Units	Parameter	Specifications	Value	Units	Coverage Factor	Level of Confidence	Is the expanded uncertainty a relative one?	Comments	NMI Service Identifier
DC resistance	Standard resistor, Thomas type, 4 terminal	Automated direct current comparator potentiometer	1	1	Ω	Maximum power	10 mW DC	0.05	μΩ/Ω	2	95%	Yes	Uncertainty expressed relative to the international value of R(K-90), not the SI ohm	51130C
						Temperature	25.000 °C ± 0.003 °C							
						Relative humidity	≤ 55 %							
						Ambient pressure	101.66 kPa							
DC resistance	Evanohm type, four terminal (oil immersion)	Automated Warshawsky bridge	10	10	kΩ	Maximum power	10 mW DC	0.15	μΩ/Ω	2	95%	Yes	Uncertainty expressed relative to the international value of R(K-90), not the SI ohm	51131C
						Temperature	25.000 °C ± 0.01 °C							
						Relative humidity	≤ 55 %							
						Ambient pressure	101.66 kPa							
DC resistance	Evanohm type, four-terminal with embedded temperature sensor (air immersion)	Automated Warshawsky bridge	10	10	kΩ	Maximum power	10 mW DC	0.15	μΩ/Ω	2	95%	Yes	Uncertainty expressed relative to the international value of R(K-90), not the SI ohm	51131C
						Temperature	23.0 °C ± 0.2 °C							
						Relative humidity	≤ 55 %							
						Ambient pressure	101.66 kPa							

## Calibration and Measurement Capabilities

DC resistance	4 terminal, oil immersion (Rosa and others)	Automated DC current comparator bridge	0.1	0.1	mΩ	Maximum power	10 mW DC	11	µΩ/Ω	2	95%	Yes	Uncertainty expressed relative to the international value of R(K-90), not the SI ohm	51132C
						Temperature	25.0 °C ± 0.02 °C							
						Relative humidity	≤ 55 %							
DC resistance	4 terminal, oil immersion (Rosa and others)	Automated DC current comparator bridge	1	1	mΩ	Maximum power	10 mW DC	5	µΩ/Ω	2	95%	Yes	Uncertainty expressed relative to the international value of R(K-90), not the SI ohm	51133C
						Temperature	25.0 °C ± 0.02 °C							
						Relative humidity	≤ 55 %							
DC resistance	4 terminal, oil immersion (Rosa and others)	Automated DC current comparator bridge	10	10	mΩ	Maximum power	10 mW DC	3	µΩ/Ω	2	95%	Yes	Uncertainty expressed relative to the international value of R(K-90), not the SI ohm	51134C
						Temperature	25.0 °C ± 0.02 °C							
						Relative humidity	≤ 55 %							
DC resistance	4 terminal, oil immersion (Rosa and others)	Automated DC current comparator bridge	100	100	mΩ	Maximum power	10 mW DC	2	µΩ/Ω	2	95%	Yes	Uncertainty expressed relative to the international value of R(K-90), not the SI ohm	51135C
						Temperature	25.0 °C ± 0.02 °C							
						Relative humidity	≤ 55 %							
DC resistance	4 terminal, oil immersion (Rosa and others)	Automated DC current comparator bridge	1	1	Ω	Maximum power	10 mW DC	1	µΩ/Ω	2	95%	Yes	Uncertainty expressed relative to the international value of R(K-90), not the SI ohm	51136C
						Temperature	25.0 °C ± 0.01 °C							
						Relative humidity	≤ 55 %							

## Calibration and Measurement Capabilities

DC resistance	4 terminal, oil immersion (Rosa and others)	Automated DC current comparator bridge	10	10	$\Omega$	Maximum power	10 mW DC	1	$\mu\Omega/\Omega$	2	95%	Yes	Uncertainty expressed relative to the international value of R(K-90), not the SI ohm	51137C
						Temperature	$25.0 \text{ }^{\circ}\text{C} \pm 0.01 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
DC resistance	4 terminal, oil immersion (Rosa and others)	Automated DC current comparator bridge	100	100	$\Omega$	Maximum power	10 mW DC	0.5	$\mu\Omega/\Omega$	2	95%	Yes	Uncertainty expressed relative to the international value of R(K-90), not the SI ohm	51138C
						Temperature	$25.0 \text{ }^{\circ}\text{C} \pm 0.01 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
DC resistance	4 terminal, oil immersion (Rosa and others)	Automated unbalanced bridge system	1	1	k $\Omega$	Maximum power	10 mW DC	0.5	$\mu\Omega/\Omega$	2	95%	Yes	Uncertainty expressed relative to the international value of R(K-90), not the SI ohm	51139C
						Temperature	$25.0 \text{ }^{\circ}\text{C} \pm 0.01 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
DC resistance	4 terminal, oil immersion (Rosa and others)	Automated unbalanced bridge system	10	10	k $\Omega$	Maximum power	10 mW DC	0.5	$\mu\Omega/\Omega$	2	95%	Yes	Uncertainty expressed relative to the international value of R(K-90), not the SI ohm	51140C
						Temperature	$25.0 \text{ }^{\circ}\text{C} \pm 0.01 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
DC resistance	4 terminal, oil immersion (Rosa and others)	Automated unbalanced bridge system	100	100	k $\Omega$	Maximum power	10 mW DC	2	$\mu\Omega/\Omega$	2	95%	Yes	Uncertainty expressed relative to the international value of R(K-90), not the SI ohm	51141C
						Temperature	$25.0 \text{ }^{\circ}\text{C} \pm 0.01 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							

## Calibration and Measurement Capabilities

DC resistance	4 terminal, oil immersion (Rosa and others)	Automated unbalanced bridge system	1	1	MΩ	Maximum power	10 mW DC	3	μΩ/Ω	2	95%	Yes	Uncertainty expressed relative to the international value of R(K-90), not the SI ohm	51142C
						Temperature	25.0 °C ± 0.01 °C							
						Relative humidity	≤ 55 %							
DC resistance	2 terminal	Teraohmmeter system, guarded Wheatstone bridge, active-arm guarded bridge	10	10	MΩ	Temperature	23.0 °C ± 0.1 °C	14	μΩ/Ω	2	95%	Yes	Uncertainty expressed relative to the international value of R(K-90), not the SI ohm	51143C
						Relative humidity	35 % ± 5 %						Voltage sensitive resistors	
						Voltage	1 V to 1 kV							
DC resistance	2 terminal	Teraohmmeter system, guarded Wheatstone bridge, active-arm guarded bridge	100	100	MΩ	Temperature	23.0 °C ± 0.1 °C	40	μΩ/Ω	2	95%	Yes	Uncertainty expressed relative to the international value of R(K-90), not the SI ohm	51145C
						Relative humidity	35 % ± 5 %						Voltage sensitive resistors	
						Voltage	1 V to 1 kV							
DC resistance	2 terminal	Teraohmmeter system, guarded Wheatstone bridge, active-arm guarded bridge	1	1	GΩ	Temperature	23.0 °C ± 0.1 °C	140	μΩ/Ω	2	95%	Yes	Uncertainty expressed relative to the international value of R(K-90), not the SI ohm	51147C
						Relative humidity	35 % ± 5 %						Voltage sensitive resistors	
						Voltage	1 V to 1 kV							
DC resistance	2 terminal	Teraohmmeter system, guarded Wheatstone bridge, active-arm guarded bridge	10	10	GΩ	Temperature	23.0 °C ± 0.1 °C	400	μΩ/Ω	2	95%	Yes	Uncertainty expressed relative to the international value of R(K-90), not the SI ohm	51149C

## Calibration and Measurement Capabilities

						Relative humidity	$35\% \pm 5\%$						Voltage sensitive resistors	
						Voltage	1 V to 1 kV							
DC resistance	2 terminal	Teraohmmeter system, active-arm guarded bridge	100	100	GΩ	Temperature	$23.0\text{ °C} \pm 0.1\text{ °C}$	700	μΩ/Ω	2	95%	Yes	Uncertainty expressed relative to the international value of R(K-90), not the SI ohm	51151C
						Relative humidity	$35\% \pm 5\%$						Voltage sensitive resistors	
						Voltage	1 V to 1 kV							
DC resistance	2 terminal	Teraohmmeter system, active-arm guarded bridge	1	1	TΩ	Temperature	$23.0\text{ °C} \pm 0.1\text{ °C}$	1400	μΩ/Ω	2	95%	Yes	Uncertainty expressed relative to the international value of R(K-90), not the SI ohm	51153C
						Relative humidity	$35\% \pm 5\%$						Voltage sensitive resistors	
						Voltage	1 V to 1 kV							
DC resistance	4 terminal, high current	DC current comparator bridge with range extendor	0.01	0.01	mΩ	Current	100 A to 2 kA DC	50	μΩ/Ω	2	95%	Yes	Uncertainty expressed relative to the international value of R(K-90), not the SI ohm	51160C for $I \leq 300\text{ A}$ ; 51161 for $I > 300\text{ A}$
						Temperature	$23.0\text{ °C} \pm 0.5\text{ °C}$ or $25.00\text{ °C} \pm 0.05\text{ °C}$							
						Relative humidity	$\leq 55\%$							
DC resistance	4 terminal, high current	Current comparator bridge with range extendor	0.1	0.1	mΩ	Current	30 A to 2 kA DC	50	μΩ/Ω	2	95%	Yes	Uncertainty expressed relative to the international value of R(K-90), not the SI ohm	51160C for $I \leq 300\text{ A}$ ; 51161 for $I > 300\text{ A}$
						Temperature	$23.0\text{ °C} \pm 0.5\text{ °C}$ or $25.00\text{ °C} \pm 0.05\text{ °C}$							
						Relative humidity	$\leq 55\%$							

## Calibration and Measurement Capabilities

DC resistance	4 terminal, high current	Current comparator bridge with range extender	1	1	mΩ	Current	10 A to 2 kA DC	50	μΩ/Ω	2	95%	Yes	Uncertainty expressed relative to the international value of R(K-90), not the SI ohm	51160C for $I \leq 300$ A; 51161 for $I > 300$ A
						Temperature	23.0 °C ± 0.5 °C or 25.00 °C ± 0.05 °C							
						Relative humidity	≤ 55 %							
DC resistance	4 terminal, high current	Current comparator bridge with range extender	10	10	mΩ	Current	3 A to 2 kA DC	7	μΩ/Ω	2	95%	Yes	Uncertainty expressed relative to the international value of R(K-90), not the SI ohm	51160C for $I \leq 300$ A; 51161 for $I > 300$ A
						Temperature	23.0 °C ± 0.5 °C or 25.00 °C ± 0.05 °C							
						Relative humidity	≤ 55 %							
DC resistance	4 terminal, high current	Current comparator bridge with range extender	100	100	mΩ	Current	1 A to 2 kA DC	7	μΩ/Ω	2	95%	Yes	Uncertainty expressed relative to the international value of R(K-90), not the SI ohm	51160C for $I \leq 300$ A; 51161 for $I > 300$ A
						Temperature	23.0 °C ± 0.5 °C or 25.00 °C ± 0.05 °C							
						Relative humidity	≤ 55 %							
DC resistance	Corona-free resistors for high voltage use	Guarded Wheatstone bridge	100	300	MΩ	Ratio	10E+03, 10E+04, 10E+05	60	μΩ/Ω	2	95%	Yes	Uncertainty expressed relative to the international value of R(K-90), not the SI ohm	51210C
						Voltage range	10 kV to 150 kV							
						Ambient temperature	23.0 °C ± 1.0 °C							
						Relative humidity	≤ 50 %							

## Calibration and Measurement Capabilities

DC voltage	Solid-state (Zener) standards	Comparison with automated resistive scaling system using digital microvoltmeter	1	10	V	Load	open circuit	0.19	$\mu\text{V}/\text{V}$	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{J90}$ , not the SI volt	53160C
					Ambient temperature	$23.0 \text{ }^\circ\text{C} \pm 0.5 \text{ }^\circ\text{C}$								
					Relative humidity	$\leq 55 \text{ \%}$								
DC voltage	Saturated (Weston) standard cells	Standard and test voltage differences measured with digital microvoltmeter in redundant design	1.018	1.018	V	Load	open circuit	0.15	$\mu\text{V}/\text{V}$	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{J90}$ , not the SI volt	53130C
					Ambient temperature	$23.0 \text{ }^\circ\text{C} \pm 0.5 \text{ }^\circ\text{C}$								
					Relative humidity	$\leq 55 \text{ \%}$								
Capacitance	Standard capacitor, fused-silica dielectric, three-terminal	Three-winding transformer bridge (Type 2)	10	10	pF	Frequency	100 Hz, 400 Hz, 1000 Hz	4, 2.5, 1.5	$\mu\text{F}/\text{F}$	2	95%	Yes	Ovenized, temperature monitor readings reported conductance not measured	52130C
					Relative humidity	$\leq 55 \text{ \%}$								
					Laboratory temperature	$23.0 \text{ }^\circ\text{C} \pm 0.5 \text{ }^\circ\text{C}$								
Capacitance	Standard capacitor, fused-silica dielectric, three-terminal	Three-winding transformer bridge (Type 2)	100	100	pF	Frequency	100 Hz, 400 Hz, 1000 Hz	4, 2.5, 1.5	$\mu\text{F}/\text{F}$	2	95%	Yes	Ovenized, temperature monitor readings reported conductance not measured	52130C
					Relative humidity	$\leq 55 \text{ \%}$								
					Laboratory temperature	$23 \text{ }^\circ\text{C} \pm 1 \text{ }^\circ\text{C}$								

## Calibration and Measurement Capabilities

Capacitance	Standard capacitor, nitrogen dielectric, three-terminal	Three-winding transformer bridge (Type 2), 8-digit capacitance meter	10	10	pF	Frequency	100 Hz, 400 Hz, 1000 Hz	6, 5, 4	μF/F	2	95%	Yes	Room temperature, optional handling tests to emulate shipping conductance not measured	52140C
						Relative humidity	≤ 55 %							
						Laboratory temperature	23 °C ± 1 °C							
Capacitance	Standard capacitor, nitrogen dielectric, three-terminal	Three-winding transformer bridge (Type 2), 8-digit capacitance meter	100	100	pF	Frequency	100 Hz, 400 Hz, 1000 Hz	6, 5, 4	μF/F	2	95%	Yes	Room temperature, optional handling tests to emulate shipping conductance not measured	52140C
						Relative humidity	≤ 55 %							
						Laboratory temperature	23 °C ± 1 °C							
Capacitance	Standard capacitor, nitrogen dielectric, three-terminal	Three-winding transformer bridge (Type 2), 8-digit capacitance meter	1000	1000	pF	Frequency	100 Hz, 400 Hz, 1000 Hz	6, 5, 4	μF/F	2	95%	Yes	Room temperature, optional handling tests to emulate shipping conductance not measured	52140C
						Relative humidity	≤ 55 %							
						Laboratory temperature	23 °C ± 1 °C							
Capacitance	Air dielectric, three-terminal	Three-winding transformer bridge (Type 2)	0.001	0.001	pF	Frequency	400 Hz, 1000 Hz	2000	μF/F	2	95%	Yes	Room temperature, optional handling tests to emulate shipping conductance not measured	52160C
						Relative humidity	≤ 55 %							
						Laboratory temperature	23 °C ± 1 °C							
Capacitance	Air dielectric, three-terminal	Three-winding transformer bridge (Type 2)	0.01	0.01	pF	Frequency	400 Hz, 1000 Hz	200	μF/F	2	95%	Yes	Room temperature, optional handling tests to emulate shipping conductance not measured	52160C

## Calibration and Measurement Capabilities

						Relative humidity	$\leq 55\%$							
						Laboratory temperature	$23\text{ }^\circ\text{C} \pm 1\text{ }^\circ\text{C}$							
Capacitance	Air dielectric, three-terminal	Three-winding transformer bridge (Type 2)	0.1	1000	pF	Frequency	400 Hz, 1000 Hz	100	$\mu\text{F/F}$	2	95%	Yes	Room temperature, optional handling tests to emulate shipping conductance not measured	52160C
						Relative humidity	$\leq 55\%$							
						Laboratory temperature	$23\text{ }^\circ\text{C} \pm 1\text{ }^\circ\text{C}$							
Capacitance	Air dielectric, three-terminal	Three-winding transformer bridge (Type 2)	10000	10000	pF	Frequency	400 Hz, 1000 Hz	150	$\mu\text{F/F}$	2	95%	Yes	Room temperature, optional handling tests to emulate shipping conductance not measured	52160C
						Relative humidity	$\leq 55\%$							
						Laboratory temperature	$23\text{ }^\circ\text{C} \pm 1\text{ }^\circ\text{C}$							
Capacitance	Air dielectric, three-terminal	Three-winding transformer bridge (Type 2)	0.01	0.01	pF	Frequency	100 Hz	1300	$\mu\text{F/F}$	2	95%	Yes	Room temperature, optional handling tests to emulate shipping conductance not measured	52160C
						Relative humidity	$\leq 55\%$							
						Laboratory temperature	$23\text{ }^\circ\text{C} \pm 1\text{ }^\circ\text{C}$							
Capacitance	Air dielectric, three-terminal	Three-winding transformer bridge (Type 2)	0.1	0.1	pF	Frequency	100 Hz	230	$\mu\text{F/F}$	2	95%	Yes	Room temperature, optional handling tests to emulate shipping conductance not measured	52160C
						Relative humidity	$\leq 55\%$							
						Laboratory temperature	$23\text{ }^\circ\text{C} \pm 1\text{ }^\circ\text{C}$							

## Calibration and Measurement Capabilities

Capacitance	Air dielectric, three-terminal	Three-winding transformer bridge (Type 2)	1	1000	pF	Frequency	100 Hz	160	µF/F	2	95%	Yes	Room temperature, optional handling tests to emulate shipping conductance not measured	52160C
						Relative humidity	≤ 55 %							
						Laboratory temperature	23 °C ± 1 °C							
Capacitance	Mica dielectric, three-terminal	Type 12, resistive ratio-arm bridge, digital impedance meter (used as a comparator)	0.001	0.001	µF	Frequency	0.1 kHz, 1 kHz, 10 kHz	120	µF/F	2	95%	Yes	Room temperature	52170C
						Relative humidity	≤ 55 %							
						Laboratory temperature	23 °C ± 1 °C							
Capacitance	Mica dielectric, three-terminal	Type 12, resistive ratio-arm bridge, digital impedance meter (used as a comparator)	0.002	0.02	µF	Frequency	0.1 kHz, 1 kHz, 10 kHz	100	µF/F	2	95%	Yes	Room temperature	52170C
						Relative humidity	≤ 55 %							
						Laboratory temperature	23 °C ± 1 °C							
Capacitance	Mica dielectric, three-terminal	Type 12, resistive ratio-arm bridge, digital impedance meter (used as a comparator)	0.05	0.05	µF	Frequency	0.1 kHz, 1 kHz, 10 kHz	100, 100, 120	µF/F	2	95%	Yes	Room temperature	52170C
						Relative humidity	≤ 55 %							
						Laboratory temperature	23 °C ± 1 °C							

## Calibration and Measurement Capabilities

Capacitance	Mica dielectric, three-terminal	Type 12, resistive ratio-arm bridge, digital impedance meter (used as a comparator)	0.1	0.1	$\mu\text{F}$	Frequency	0.1 kHz, 1 kHz, 10 kHz	100, 100, 150	$\mu\text{F/F}$	2	95%	Yes	Room temperature	52170C
						Relative humidity	$\leq 55\%$							
						Laboratory temperature	$23^\circ\text{C} \pm 1^\circ\text{C}$							
Capacitance	Mica dielectric, three-terminal	Type 12, resistive ratio-arm bridge, digital impedance meter (used as a comparator)	0.2	0.2	$\mu\text{F}$	Frequency	0.1 kHz, 1 kHz, 10 kHz	100, 100, 250	$\mu\text{F/F}$	2	95%	Yes	Room temperature	52170C
						Relative humidity	$\leq 55\%$							
						Laboratory temperature	$23^\circ\text{C} \pm 1^\circ\text{C}$							
Capacitance	Mica dielectric, three-terminal	Type 12, resistive ratio-arm bridge, digital impedance meter (used as a comparator)	0.5	0.5	$\mu\text{F}$	Frequency	0.1 kHz, 1 kHz, 10 kHz	100, 100, 500	$\mu\text{F/F}$	2	95%	Yes	Room temperature	52170C
						Relative humidity	$\leq 55\%$							
						Laboratory temperature	$23^\circ\text{C} \pm 1^\circ\text{C}$							
Capacitance	Mica dielectric, three-terminal	Type 12, resistive ratio-arm bridge, digital impedance meter (used as a comparator)	1	1	$\mu\text{F}$	Frequency	100 Hz, 1000 Hz	120	$\mu\text{F/F}$	2	95%	Yes	Room temperature	52170C
						Relative humidity	$\leq 55\%$							
						Laboratory temperature	$23^\circ\text{C} \pm 1^\circ\text{C}$							

## Calibration and Measurement Capabilities

Capacitance	High-voltage for power frequency	Power frequency current comparator	10	1E+08	pF	Frequency	40 Hz to 100 Hz	30	$\mu\text{F}/\text{F}$	2	95%	Yes	Room temperature	52400C
						Applied voltage	$\leq 150 \text{ kV}$							
						Relative humidity	$\leq 55 \%$							
						Laboratory temperature	$21^\circ\text{C} \pm 2^\circ\text{C}$							
Capacitance: dissipation factor, $\phi$	High-voltage for power frequency	Power frequency current comparator	0	0.1	rad	Frequency	40 Hz to 100 Hz	$(10\text{E}-06\phi + 10)$	$\mu\text{rad}$	2	95%	Yes	Room temperature	52400C
						Capacitance	10 to $1\text{E}+08 \text{ pF}$							
						Applied voltage	$\leq 150 \text{ kV}$							
						Relative humidity	$\leq 55 \%$							
						Laboratory temperature	$21^\circ\text{C} \pm 2^\circ\text{C}$							
Inductance	Standard inductor, air core, six-terminal	Realization with Maxwell-Wien bridge	20	20	$\mu\text{H}$	Frequency	100 Hz	5000	$\mu\text{H}/\text{H}$	3	99%	Yes	Henry derived from ohm and farad using Maxwell-Wien bridge	52180C
						Relative humidity	$\leq 55 \%$							
						Laboratory temperature	$23^\circ\text{C} \pm 1^\circ\text{C}$							
Inductance	Standard inductor, air core, six-terminal	Realization with Maxwell-Wien bridge	20	20	$\mu\text{H}$	Frequency	400 Hz, 1 kHz, 10 kHz	2000	$\mu\text{H}/\text{H}$	3	99%	Yes	Henry derived from ohm and farad using Maxwell-Wien bridge	52180C
						Relative humidity	$\leq 55 \%$							
						Laboratory temperature	$23^\circ\text{C} \pm 1^\circ\text{C}$							
Inductance	Standard inductor, air core, six-terminal	Substitution comparison with working standard of same value	20	50	$\mu\text{H}$	Frequency	100 Hz, 400 Hz, 1 kHz, 10 kHz	2000	$\mu\text{H}/\text{H}$	3	99%	Yes	Henry derived from ohm and farad using Maxwell-Wien bridge	52180C
						Relative humidity	$\leq 55 \%$							
						Laboratory temperature	$23^\circ\text{C} \pm 1^\circ\text{C}$							

## Calibration and Measurement Capabilities

Inductance	Standard inductor, air core, three-terminal	Substitution comparison with working standard of same value, unknown in 2-terminal configuration	100	100	$\mu\text{H}$	Frequency	100 Hz, 400 Hz, 1 kHz, 10 kHz	1000	$\mu\text{H}/\text{H}$	3	99%	Yes	Henry derived from ohm and farad using Maxwell-Wien bridge	52180C
						Relative humidity	$\leq 55 \%$							
						Laboratory temperature	$23^\circ\text{C} \pm 1^\circ\text{C}$							
Inductance	Standard inductor, air core, three-terminal	Substitution comparison with working standard of same value, unknown in 2-terminal configuration	200	200	$\mu\text{H}$	Frequency	100 Hz, 400 Hz, 1 kHz, 10 kHz	500	$\mu\text{H}/\text{H}$	3	99%	Yes	Henry derived from ohm and farad using Maxwell-Wien bridge	52180C
						Relative humidity	$\leq 55 \%$							
						Laboratory temperature	$23^\circ\text{C} \pm 1^\circ\text{C}$							
Inductance	Standard inductor, air core, three-terminal	Substitution comparison with working standard of same value, unknown in 2-terminal configuration	500	500	$\mu\text{H}$	Frequency	100 Hz, 400 Hz, 1000 Hz	200	$\mu\text{H}/\text{H}$	3	99%	Yes	Henry derived from ohm and farad using Maxwell-Wien bridge	52180C
						Relative humidity	$\leq 55 \%$							
						Laboratory temperature	$23^\circ\text{C} \pm 1^\circ\text{C}$							
Inductance	Standard inductor, air core, three-terminal	Substitution comparison with working standard of same value, unknown in 2-terminal configuration	500	500	$\mu\text{H}$	Frequency	10 kHz	500	$\mu\text{H}/\text{H}$	3	99%	Yes	Henry derived from ohm and farad using Maxwell-Wien bridge	52180C
						Relative humidity	$\leq 55 \%$							
						Laboratory temperature	$23^\circ\text{C} \pm 1^\circ\text{C}$							

## Calibration and Measurement Capabilities

Inductance	Standard inductor, air core, three-terminal	Substitution comparison with working standard of same value, unknown in 2-terminal configuration	1	500	mH	Frequency	100 Hz, 400 Hz, 1000 Hz	200	$\mu\text{H}/\text{H}$	3	99%	Yes	Henry derived from ohm and farad using Maxwell-Wien bridge	52180C
						Relative humidity	$\leq 55 \%$							
						Laboratory temperature	$23 \text{ }^\circ\text{C} \pm 1 \text{ }^\circ\text{C}$							
Inductance	Standard inductor, air core, three-terminal	Substitution comparison with working standard of same value, unknown in 2-terminal configuration	1	100	mH	Frequency	10 kHz	500	$\mu\text{H}/\text{H}$	3	99%	Yes	Henry derived from ohm and farad using Maxwell-Wien bridge	52180C
						Relative humidity	$\leq 55 \%$							
						Laboratory temperature	$23 \text{ }^\circ\text{C} \pm 1 \text{ }^\circ\text{C}$							
Inductance	Standard inductor, air core, three-terminal	Substitution comparison with working standard of same value, unknown in 2-terminal configuration	1	2	H	Frequency	1 kHz	500	$\mu\text{H}/\text{H}$	3	99%	Yes	Henry derived from ohm and farad using Maxwell-Wien bridge	52180C
						Relative humidity	$\leq 55 \%$							
						Laboratory temperature	$23 \text{ }^\circ\text{C} \pm 1 \text{ }^\circ\text{C}$							
Inductance	Standard inductor, air core, three-terminal	Substitution comparison with working standard of same value, unknown in 2-terminal configuration	5	5	H	Frequency	100 Hz	200	$\mu\text{H}/\text{H}$	3	99%	Yes	Henry derived from ohm and farad using Maxwell-Wien bridge	52180C
						Relative humidity	$\leq 55 \%$							
						Laboratory temperature	$23 \text{ }^\circ\text{C} \pm 1 \text{ }^\circ\text{C}$							

## Calibration and Measurement Capabilities

Inductance	Standard inductor, air core, three-terminal	Substitution comparison with working standard of same value, unknown in 2-terminal configuration	5	5	H	Frequency	400 Hz	500	$\mu\text{H}/\text{H}$	3	99%	Yes	Henry derived from ohm and farad using Maxwell-Wien bridge	52180C
						Relative humidity	$\leq 55\%$							
						Laboratory temperature	$23^\circ\text{C} \pm 1^\circ\text{C}$							
Inductance	Standard inductor, air core, three-terminal	Substitution comparison with working standard of same value, unknown in 2-terminal configuration	5	5	H	Frequency	1 kHz	1000	$\mu\text{H}/\text{H}$	3	99%	Yes	Henry derived from ohm and farad using Maxwell-Wien bridge	52180C
						Relative humidity	$\leq 55\%$							
						Laboratory temperature	$23^\circ\text{C} \pm 1^\circ\text{C}$							
Inductance	Standard inductor, air core, three-terminal	Substitution comparison with working standard of same value, unknown in 2-terminal configuration	10	10	H	Frequency	100 Hz	200	$\mu\text{H}/\text{H}$	3	99%	Yes	Henry derived from ohm and farad using Maxwell-Wien bridge	52180C
						Relative humidity	$\leq 55\%$							
						Laboratory temperature	$23^\circ\text{C} \pm 1^\circ\text{C}$							
Inductance	Standard inductor, air core, three-terminal	Substitution comparison with working standard of same value, unknown in 2-terminal configuration	10	10	H	Frequency	400 Hz	1000	$\mu\text{H}/\text{H}$	3	99%	Yes	Henry derived from ohm and farad using Maxwell-Wien bridge	52180C
						Relative humidity	$\leq 55\%$							
						Laboratory temperature	$23^\circ\text{C} \pm 1^\circ\text{C}$							

## Calibration and Measurement Capabilities

Inductance	Standard inductor, air core, three-terminal	Substitution comparison with working standard of same value, unknown in 2-terminal configuration	10	10	H	Frequency	1 kHz	2000	$\mu\text{H}/\text{H}$	3	99%	Yes	Henry derived from ohm and farad using Maxwell-Wien bridge	52180C
						Relative humidity	$\leq 55\%$							
						Laboratory temperature	$23^\circ\text{C} \pm 1^\circ\text{C}$							
AC/DC transfer difference at low voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Measurement of standard signal	2	2	mV	Frequency	10 Hz to 50 kHz	270	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
						Ambient temperature	$23.0^\circ\text{C} \pm 0.5^\circ\text{C}$							
						Relative humidity	$\leq 55\%$							
AC/DC transfer difference at low voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Measurement of standard signal	2	2	mV	Frequency	200 kHz	400	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
						Ambient temperature	$23.0^\circ\text{C} \pm 0.5^\circ\text{C}$							
						Relative humidity	$\leq 55\%$							
AC/DC transfer difference at low voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Measurement of standard signal	2	2	mV	Frequency	1 MHz	670	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
						Ambient temperature	$23.0^\circ\text{C} \pm 0.5^\circ\text{C}$							
						Relative humidity	$\leq 55\%$							

## Calibration and Measurement Capabilities

AC/DC transfer difference at low voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Measurement of standard signal	10	20	mV	Frequency	10 Hz	70	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
					Ambient temperature	$23.0 \text{ }^\circ\text{C} \pm 0.5 \text{ }^\circ\text{C}$								
					Relative humidity	$\leq 55 \text{ \%}$								
AC/DC transfer difference at low voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Measurement of standard signal	10	20	mV	Frequency	50 Hz to 20 kHz	50	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
					Ambient temperature	$23.0 \text{ }^\circ\text{C} \pm 0.5 \text{ }^\circ\text{C}$								
					Relative humidity	$\leq 55 \text{ \%}$								
AC/DC transfer difference at low voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Measurement of standard signal	10	20	mV	Frequency	50 kHz	70	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
					Ambient temperature	$23.0 \text{ }^\circ\text{C} \pm 0.5 \text{ }^\circ\text{C}$								
					Relative humidity	$\leq 55 \text{ \%}$								
AC/DC transfer difference at low voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Measurement of standard signal	10	20	mV	Frequency	200 kHz	170	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
					Ambient temperature	$23.0 \text{ }^\circ\text{C} \pm 0.5 \text{ }^\circ\text{C}$								
					Relative humidity	$\leq 55 \text{ \%}$								

## Calibration and Measurement Capabilities

AC/DC transfer difference at low voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Measurement of standard signal	10	20	mV	Frequency	1 MHz	335	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
					Ambient temperature	$23.0 \text{ }^\circ\text{C} \pm 0.5 \text{ }^\circ\text{C}$								
					Relative humidity	$\leq 55 \text{ \%}$								
AC/DC transfer difference at low voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Measurement of standard signal	50	50	mV	Frequency	10 Hz	40	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
					Ambient temperature	$23.0 \text{ }^\circ\text{C} \pm 0.5 \text{ }^\circ\text{C}$								
					Relative humidity	$\leq 55 \text{ \%}$								
AC/DC transfer difference at low voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Measurement of standard signal	50	50	mV	Frequency	50 Hz to 20 kHz	30	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
					Ambient temperature	$23.0 \text{ }^\circ\text{C} \pm 0.5 \text{ }^\circ\text{C}$								
					Relative humidity	$\leq 55 \text{ \%}$								
AC/DC transfer difference at low voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Measurement of standard signal	50	50	mV	Frequency	50 kHz	35	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
					Ambient temperature	$23.0 \text{ }^\circ\text{C} \pm 0.5 \text{ }^\circ\text{C}$								
					Relative humidity	$\leq 55 \text{ \%}$								

## Calibration and Measurement Capabilities

AC/DC transfer difference at low voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Measurement of standard signal	50	50	mV	Frequency	200 kHz	100	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
					Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 0.5 \text{ }^{\circ}\text{C}$								
					Relative humidity	$\leq 55 \text{ \%}$								
AC/DC transfer difference at low voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Measurement of standard signal	50	50	mV	Frequency	1 MHz	270	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
					Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 0.5 \text{ }^{\circ}\text{C}$								
					Relative humidity	$\leq 55 \text{ \%}$								
AC/DC transfer difference at low voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Measurement of standard signal	100	200	mV	Frequency	10 Hz	30	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
					Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 0.5 \text{ }^{\circ}\text{C}$								
					Relative humidity	$\leq 55 \text{ \%}$								
AC/DC transfer difference at low voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Measurement of standard signal	100	200	mV	Frequency	50 Hz to 20 kHz	15	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
					Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 0.5 \text{ }^{\circ}\text{C}$								
					Relative humidity	$\leq 55 \text{ \%}$								

## Calibration and Measurement Capabilities

AC/DC transfer difference at low voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Measurement of standard signal	100	200	mV	Frequency	50 kHz	20	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
					Ambient temperature	$23.0 \text{ }^\circ\text{C} \pm 0.5 \text{ }^\circ\text{C}$								
					Relative humidity	$\leq 55 \text{ \%}$								
AC/DC transfer difference at low voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Measurement of standard signal	100	200	mV	Frequency	200 kHz	55	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
					Ambient temperature	$23.0 \text{ }^\circ\text{C} \pm 0.5 \text{ }^\circ\text{C}$								
					Relative humidity	$\leq 55 \text{ \%}$								
AC/DC transfer difference at medium voltages	Multijunction thermal voltage converter	Direct comparison	1	10	V	Frequency	30 Hz	0.8	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
					Ambient temperature	$23.0 \text{ }^\circ\text{C} \pm 0.5 \text{ }^\circ\text{C}$								
					Relative humidity	$\leq 55 \text{ \%}$								
AC/DC transfer difference at medium voltages	Multijunction thermal voltage converter	Direct comparison	1	10	V	Frequency	10 kHz	0.8	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
					Ambient temperature	$23.0 \text{ }^\circ\text{C} \pm 0.5 \text{ }^\circ\text{C}$								
					Relative humidity	$\leq 55 \text{ \%}$								
AC/DC transfer difference at medium voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	1	3	V	Frequency	10 Hz	14	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C

## Calibration and Measurement Capabilities

						Ambient temperature	$23.0\text{ }^{\circ}\text{C} \pm 0.5\text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55\text{ }\%$							
AC/DC transfer difference at medium voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	6	10	V	Frequency	10 Hz	15	$\mu\text{V/V}$	2	95%	Yes		53350C
						Ambient temperature	$23.0\text{ }^{\circ}\text{C} \pm 0.5\text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55\text{ }\%$							
AC/DC transfer difference at medium voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	20	30	V	Frequency	10 Hz	16	$\mu\text{V/V}$	2	95%	Yes		53350C
						Ambient temperature	$23.0\text{ }^{\circ}\text{C} \pm 0.5\text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55\text{ }\%$							
AC/DC transfer difference at medium voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	60	100	V	Frequency	10 Hz	17	$\mu\text{V/V}$	2	95%	Yes		53350C
						Ambient temperature	$23.0\text{ }^{\circ}\text{C} \pm 0.5\text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55\text{ }\%$							
AC/DC transfer difference at high voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	200	1000	V	Frequency	10 Hz	100	$\mu\text{V/V}$	2	95%	Yes		53350C
						Ambient temperature	$23.0\text{ }^{\circ}\text{C} \pm 0.5\text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55\text{ }\%$							

## Calibration and Measurement Capabilities

AC/DC transfer difference at medium voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	1	2	V	Frequency	20 Hz	11	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
						Ambient temperature	$23.0 \text{ }^\circ\text{C} \pm 0.5 \text{ }^\circ\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC/DC transfer difference at medium voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	3	20	V	Frequency	20 Hz	12	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
						Ambient temperature	$23.0 \text{ }^\circ\text{C} \pm 0.5 \text{ }^\circ\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC/DC transfer difference at medium voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	30	100	V	Frequency	20 Hz	13	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
						Ambient temperature	$23.0 \text{ }^\circ\text{C} \pm 0.5 \text{ }^\circ\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC/DC transfer difference at high voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	200	1000	V	Frequency	20 Hz	20	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
						Ambient temperature	$23.0 \text{ }^\circ\text{C} \pm 0.5 \text{ }^\circ\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							

## Calibration and Measurement Capabilities

AC/DC transfer difference at medium voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	1	2	V	Frequency	50 Hz	9	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
						Ambient temperature	$23.0 \text{ }^\circ\text{C} \pm 0.5 \text{ }^\circ\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC/DC transfer difference at medium voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	3	30	V	Frequency	50 Hz	10	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
						Ambient temperature	$23.0 \text{ }^\circ\text{C} \pm 0.5 \text{ }^\circ\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC/DC transfer difference at medium voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	60	100	V	Frequency	50 Hz	11	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
						Ambient temperature	$23.0 \text{ }^\circ\text{C} \pm 0.5 \text{ }^\circ\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC/DC transfer difference at high voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	200	1000	V	Frequency	50 Hz	20	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
						Ambient temperature	$23.0 \text{ }^\circ\text{C} \pm 0.5 \text{ }^\circ\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							

## Calibration and Measurement Capabilities

AC/DC transfer difference at medium voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	1	30	V	Frequency	400 Hz	5	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 0.5 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC/DC transfer difference at medium voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	60	100	V	Frequency	400 Hz	6	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 0.5 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC/DC transfer difference at high voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	200	1000	V	Frequency	400 Hz	20	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 0.5 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC/DC transfer difference at medium voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	1	6	V	Frequency	1 kHz	4	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 0.5 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							

## Calibration and Measurement Capabilities

AC/DC transfer difference at medium voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	10	10	V	Frequency	1 kHz	5	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 0.5 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC/DC transfer difference at medium voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	20	30	V	Frequency	1 kHz	6	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 0.5 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC/DC transfer difference at medium voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	60	100	V	Frequency	1 kHz	7	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 0.5 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC/DC transfer difference at high voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	200	200	V	Frequency	1 kHz	9	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 0.5 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							

## Calibration and Measurement Capabilities

AC/DC transfer difference at high voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	300	300	V	Frequency	1 kHz	11	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
					Ambient temperature	23.0 °C ± 0.5 °C								
					Relative humidity	≤ 55 %								
AC/DC transfer difference at high voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	600	600	V	Frequency	1 kHz	13	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
					Ambient temperature	23.0 °C ± 0.5 °C								
					Relative humidity	≤ 55 %								
AC/DC transfer difference at high voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	1000	1000	V	Frequency	1 kHz	16	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
					Ambient temperature	23.0 °C ± 0.5 °C								
					Relative humidity	≤ 55 %								
AC/DC transfer difference at medium voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	1	10	V	Frequency	20 kHz	5	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
					Ambient temperature	23.0 °C ± 0.5 °C								
					Relative humidity	≤ 55 %								

## Calibration and Measurement Capabilities

AC/DC transfer difference at medium voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	20	60	V	Frequency	20 kHz	7	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
						Ambient temperature	$23.0 \text{ }^\circ\text{C} \pm 0.5 \text{ }^\circ\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC/DC transfer difference at medium voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	100	100	V	Frequency	20 kHz	8	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
						Ambient temperature	$23.0 \text{ }^\circ\text{C} \pm 0.5 \text{ }^\circ\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC/DC transfer difference at high voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	200	200	V	Frequency	20 kHz	10	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
						Ambient temperature	$23.0 \text{ }^\circ\text{C} \pm 0.5 \text{ }^\circ\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC/DC transfer difference at high voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	300	300	V	Frequency	20 kHz	11	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
						Ambient temperature	$23.0 \text{ }^\circ\text{C} \pm 0.5 \text{ }^\circ\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							

## Calibration and Measurement Capabilities

AC/DC transfer difference at high voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	600	600	V	Frequency	20 kHz	15	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
					Ambient temperature	23.0 °C ± 0.5 °C								
					Relative humidity	≤ 55 %								
AC/DC transfer difference at high voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	1000	1000	V	Frequency	20 kHz	17	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
					Ambient temperature	23.0 °C ± 0.5 °C								
					Relative humidity	≤ 55 %								
AC/DC transfer difference at medium voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	1	6	V	Frequency	50 kHz	6	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
					Ambient temperature	23.0 °C ± 0.5 °C								
					Relative humidity	≤ 55 %								
AC/DC transfer difference at medium voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	7	7	V	Frequency	50 kHz	10	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
					Ambient temperature	23.0 °C ± 0.5 °C								
					Relative humidity	≤ 55 %								

## Calibration and Measurement Capabilities

AC/DC transfer difference at medium voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	20	30	V	Frequency	50 kHz	8	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
						Ambient temperature	$23.0 \text{ }^\circ\text{C} \pm 0.5 \text{ }^\circ\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC/DC transfer difference at medium voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	60	100	V	Frequency	50 kHz	9	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
						Ambient temperature	$23.0 \text{ }^\circ\text{C} \pm 0.5 \text{ }^\circ\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC/DC transfer difference at high voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	200	200	V	Frequency	50 kHz	11	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
						Ambient temperature	$23.0 \text{ }^\circ\text{C} \pm 0.5 \text{ }^\circ\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC/DC transfer difference at high voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	300	300	V	Frequency	50 kHz	12	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
						Ambient temperature	$23.0 \text{ }^\circ\text{C} \pm 0.5 \text{ }^\circ\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							

## Calibration and Measurement Capabilities

AC/DC transfer difference at high voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	600	600	V	Frequency	50 kHz	19	µV/V	2	95%	Yes		53350C
					Ambient temperature	23.0 °C ± 0.5 °C								
					Relative humidity	≤ 55 %								
AC/DC transfer difference at high voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	1000	1000	V	Frequency	50 kHz	22	µV/V	2	95%	Yes		53350C
					Ambient temperature	23.0 °C ± 0.5 °C								
					Relative humidity	≤ 55 %								
AC/DC transfer difference at medium voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	1	2	V	Frequency	100 kHz	7	µV/V	2	95%	Yes		53350C
					Ambient temperature	23.0 °C ± 0.5 °C								
					Relative humidity	≤ 55 %								
AC/DC transfer difference at medium voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	3	6	V	Frequency	100 kHz	8	µV/V	2	95%	Yes		53350C
					Ambient temperature	23.0 °C ± 0.5 °C								
					Relative humidity	≤ 55 %								

## Calibration and Measurement Capabilities

AC/DC transfer difference at medium voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	10	10	V	Frequency	100 kHz	9	µV/V	2	95%	Yes		53350C
					Ambient temperature	23.0 °C ± 0.5 °C								
					Relative humidity	≤ 55 %								
AC/DC transfer difference at medium voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	20	20	V	Frequency	100 kHz	10	µV/V	2	95%	Yes		53350C
					Ambient temperature	23.0 °C ± 0.5 °C								
					Relative humidity	≤ 55 %								
AC/DC transfer difference at medium voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	30	30	V	Frequency	100 kHz	11	µV/V	2	95%	Yes		53350C
					Ambient temperature	23.0 °C ± 0.5 °C								
					Relative humidity	≤ 55 %								
AC/DC transfer difference at medium voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	60	100	V	Frequency	100 kHz	12	µV/V	2	95%	Yes		53350C
					Ambient temperature	23.0 °C ± 0.5 °C								
					Relative humidity	≤ 55 %								

## Calibration and Measurement Capabilities

AC/DC transfer difference at high voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	200	200	V	Frequency	100 kHz	17	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
					Ambient temperature	23.0 °C ± 0.5 °C								
					Relative humidity	≤ 55 %								
AC/DC transfer difference at high voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	300	300	V	Frequency	100 kHz	19	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
					Ambient temperature	23.0 °C ± 0.5 °C								
					Relative humidity	≤ 55 %								
AC/DC transfer difference at high voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	600	600	V	Frequency	100 kHz	30	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
					Ambient temperature	23.0 °C ± 0.5 °C								
					Relative humidity	≤ 55 %								
AC/DC transfer difference at high voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	1000	1000	V	Frequency	100 kHz	34	$\mu\text{V}/\text{V}$	2	95%	Yes		53350C
					Ambient temperature	23.0 °C ± 0.5 °C								
					Relative humidity	≤ 55 %								

## Calibration and Measurement Capabilities

AC/DC transfer difference at medium voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	1	100	V	Frequency	200 kHz	70	µV/V	2	95%	Yes		53350C
					Ambient temperature	23.0 °C ± 0.5 °C								
					Relative humidity	≤ 55 %								
AC/DC transfer difference at medium voltages	Thermal transfer standard based on single thermocouple junction or solid-state sensor	Direct comparison	1	100	V	Frequency	1 MHz	70	µV/V	2	95%	Yes		53350C
					Ambient temperature	23.0 °C ± 0.5 °C								
					Relative humidity	≤ 55 %								
AC/DC difference (current)	Current converter, or shunt/thermoelement combo.	Direct comparison	0	50	mA	Frequency	5 Hz	200	µA/A	2	95%	Yes		53350C
					Ambient temperature	23.0 °C ± 0.5 °C								
					Relative humidity	≤ 55 %								
AC/DC difference (current)	Current converter, or shunt/thermoelement combo.	Direct comparison	0	50	mA	Frequency	10 Hz	100	µA/A	2	95%	Yes		53350C
					Ambient temperature	23.0 °C ± 0.5 °C								
					Relative humidity	≤ 55 %								
AC/DC difference (current)	Current converter, or shunt/thermoelement combo.	Direct comparison	0	5	A	Frequency	20 kHz	50	µA/A	2	95%	Yes		53350C
					Ambient temperature	23.0 °C ± 0.5 °C								
					Relative humidity	≤ 55 %								
AC/DC difference (current)	Current converter, or shunt/thermoelement combo.	Direct comparison	20	20	A	Frequency	20 kHz	100	µA/A	2	95%	Yes		53350C

## Calibration and Measurement Capabilities

						Ambient temperature	$23.0^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$							
						Relative humidity	$\leq 55\%$							
AC/DC difference (current)	Current converter, or shunt/thermoelement combo.	Direct comparison	30	30	A	Frequency	1 kHz	210	$\mu\text{A}/\text{A}$	2	95%	Yes		53350C
						Ambient temperature	$23.0^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$							
						Relative humidity	$\leq 55\%$							
AC/DC difference (current)	Current converter, or shunt/thermoelement combo.	Direct comparison	30	30	A	Frequency	10 kHz	260	$\mu\text{A}/\text{A}$	2	95%	Yes		53350C
						Ambient temperature	$23.0^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$							
						Relative humidity	$\leq 55\%$							
AC/DC difference (current)	Current converter, or shunt/thermoelement combo.	Direct comparison	30	30	A	Frequency	20 kHz	270	$\mu\text{A}/\text{A}$	2	95%	Yes		53350C
						Ambient temperature	$23.0^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$							
						Relative humidity	$\leq 55\%$							
AC/DC difference (current)	Current converter, or shunt/thermoelement combo.	Direct comparison	30	30	A	Frequency	30 kHz	320	$\mu\text{A}/\text{A}$	2	95%	Yes		53350C
						Ambient temperature	$23.0^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$							
						Relative humidity	$\leq 55\%$							
AC/DC difference (current)	Current converter, or shunt/thermoelement combo.	Direct comparison	50	50	A	Frequency	1 kHz	260	$\mu\text{A}/\text{A}$	2	95%	Yes		53350C
						Ambient temperature	$23.0^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$							
						Relative humidity	$\leq 55\%$							
AC/DC difference (current)	Current converter, or shunt/thermoelement combo.	Direct comparison	50	50	A	Frequency	10 kHz	330	$\mu\text{A}/\text{A}$	2	95%	Yes		53350C
						Ambient temperature	$23.0^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$							
						Relative humidity	$\leq 55\%$							

## Calibration and Measurement Capabilities

AC/DC difference (current)	Current converter, or shunt/thermoelement combo.	Direct comparison	50	50	A	Frequency	20 kHz	370	µA/A	2	95%	Yes		53350C
						Ambient temperature	23.0 °C ± 0.5 °C							
						Relative humidity	≤ 55 %							
AC/DC difference (current)	Current converter, or shunt/thermoelement combo.	Direct comparison	50	50	A	Frequency	30 kHz	450	µA/A	2	95%	Yes		53350C
						Ambient temperature	23.0 °C ± 0.5 °C							
						Relative humidity	≤ 55 %							
AC/DC difference (current)	Current converter, or shunt/thermoelement combo.	Direct comparison	80	80	A	Frequency	1 kHz	320	µA/A	2	95%	Yes		53350C
						Ambient temperature	23.0 °C ± 0.5 °C							
						Relative humidity	≤ 55 %							
AC/DC difference (current)	Current converter, or shunt/thermoelement combo.	Direct comparison	80	80	A	Frequency	10 kHz	430	µA/A	2	95%	Yes		53350C
						Ambient temperature	23.0 °C ± 0.5 °C							
						Relative humidity	≤ 55 %							
AC/DC difference (current)	Current converter, or shunt/thermoelement combo.	Direct comparison	80	80	A	Frequency	20 kHz	490	µA/A	2	95%	Yes		53350C
						Ambient temperature	23.0 °C ± 0.5 °C							
						Relative humidity	≤ 55 %							
AC/DC difference (current)	Current converter, or shunt/thermoelement combo.	Direct comparison	100	100	A	Frequency	1 kHz	380	µA/A	2	95%	Yes		53350C
						Ambient temperature	23.0 °C ± 0.5 °C							
						Relative humidity	≤ 55 %							
AC/DC difference (current)	Current converter, or shunt/thermoelement combo.	Direct comparison	100	100	A	Frequency	10 kHz	500	µA/A	2	95%	Yes		53350C

## Calibration and Measurement Capabilities

						Ambient temperature	$23.0\text{ }^{\circ}\text{C} \pm 0.5\text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55\text{ \%}$							
AC power & energy, single phase power at frequencies $\leq 400\text{ Hz}$	Watt and VAR meters	Comparison	6	60000	W	Frequency	50 Hz to 400 Hz	35	$\mu\text{W/VA}$	2	95%	Yes		56200C
						Applied voltage	60 V to 600 V							
						Current	0.1 A to 100 A							
						Power factor	any							
						Ambient temperature	$23\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55\text{ \%}$							
AC power & energy, single phase power at frequencies $\geq 400\text{ Hz}$	Watt and VAR meters	Comparison	6	60000	W	Frequency	400 Hz to 3000 Hz	100	$\mu\text{W/VA}$	2	95%	Yes		56200C
						Applied voltage	60 V to 600 V							
						Current	0.1 A to 100 A							
						Power factor	any							
						Ambient temperature	$23\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55\text{ \%}$							
AC power & energy, single phase power at frequencies $\leq 400\text{ Hz}$	Watt-hour and VAR-hour meters	Comparison				Frequency	50 Hz to 400 Hz	35	$\mu\text{J/J}$	2	95%	Yes	No energy range given	56200C
						Applied voltage	60 V to 600 V							
						Current	0.5 A to 100 A							
						Power factor	any							
						Ambient temperature	$23\text{ }^{\circ}\text{C} \pm 1\text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55\text{ \%}$							
AC power & energy, single phase power at frequencies $\geq 400\text{ Hz}$	Watt-hour and VAR-hour meters	Comparison				Frequency	400 Hz to 3000 Hz	100	$\mu\text{J/J}$	2	95%	Yes	No energy range given	56200C
						Applied voltage	60 V to 600 V							
						Current	0.5 A to 100 A							
						Power factor	any							

## Calibration and Measurement Capabilities

						Ambient temperature	$23^{\circ}\text{C} \pm 1^{\circ}\text{C}$							
						Relative humidity	$\leq 55\%$							
Phase: sources	Phase generators	Comparison	0	$2\pi$	rad	Frequency range	2 Hz to 5 kHz	0.17	mrad	2	95%	No	Uncertainties apply to signals of equal magnitude	55120C
						Ambient temperature	$23^{\circ}\text{C} \pm 1.5^{\circ}\text{C}$							
						Relative humidity	$\leq 55\%$							
Phase: meters	Phase meters	Comparison	0	$2\pi$	rad	Frequency range	2 Hz to 5 kHz	0.17	mrad	2	95%	No	Uncertainties apply to signals of equal magnitude	55120C
						Ambient temperature	$23^{\circ}\text{C} \pm 1.5^{\circ}\text{C}$							
						Relative humidity	$\leq 55\%$							
Phase: sources	Phase generators	Comparison	0	$2\pi$	rad	Frequency range	6 kHz to 50 kHz	0.70	mrad	2	95%	No	Uncertainties apply to signals of equal magnitude	55120C
						Ambient temperature	$23^{\circ}\text{C} \pm 1.5^{\circ}\text{C}$							
						Relative humidity	$\leq 55\%$							
Phase: meters	Phase meters	Comparison	0	$2\pi$	rad	Frequency range	6 kHz to 50 kHz	0.70	mrad	2	95%	No	Uncertainties apply to signals of equal magnitude	55120C
						Ambient temperature	$23^{\circ}\text{C} \pm 1.5^{\circ}\text{C}$							
						Relative humidity	$\leq 55\%$							
Phase	VOR meters	Comparison	0	$2\pi$	rad	Carrier frequency	9.996 kHz	0.26	mrad	2	95%	No	Phase between two modulation signals measured	55120C
						FM signal frequency	30 Hz							
						AM signal frequency	30 Hz							
						Ambient temperature	$23^{\circ}\text{C} \pm 1.5^{\circ}\text{C}$							
						Relative humidity	$\leq 55\%$							

## Calibration and Measurement Capabilities

AC voltage ratio relative to input voltage	Inductive voltage dividers: in-phase ratio (decade transformer dividers)	Bridge comparison	0.000	1.000		Frequency	100 Hz, 400 Hz, 1000 Hz	0.5	$\mu$ V/V	3	99%	Yes	Each step of the 3 most-significant dials, others at zero (32 readings)	54120C
					Ambient temperature	23.0 °C ± 1.5 °C								
					Relative humidity	≤ 55 %								
AC voltage ratio relative to input voltage	Inductive voltage dividers: quadrature ratio (decade transformer dividers)	Bridge comparison	0.000	1.000		Frequency	100 Hz, 400 Hz, 1000 Hz	5.0	$\mu$ V/V	3	99%	Yes	Each step of the 3 most-significant dials, others at zero (32 readings)	54120C
					Ambient temperature	23.0 °C ± 1.5 °C								
					Relative humidity	≤ 55 %								
AC voltage ratio relative to input voltage	Inductive voltage dividers: in-phase ratio (decade transformer dividers)	Bridge comparison	0.000	1.000		Frequency	5 kHz, 10 kHz	1.0	$\mu$ V/V	3	99%	Yes	Each step of the 3 most-significant dials, others at zero (32 readings)	54120C
					Ambient temperature	23.0 °C ± 1.5 °C								
					Relative humidity	≤ 55 %								
AC voltage ratio relative to input voltage	Inductive voltage dividers: quadrature ratio (decade transformer dividers)	Bridge comparison	0.000	1.000		Frequency	5 kHz, 10 kHz	5.0	$\mu$ V/V	3	99%	Yes	Each step of the 3 most-significant dials, others at zero (32 readings)	54120C
					Ambient temperature	23.0 °C ± 1.5 °C								
					Relative humidity	≤ 55 %								
AC voltage ratio	AC divider, resistive (ratio)	Comparison with current comparator	1E+07	10E+06		Frequency	40 Hz to 100 Hz	300	$\mu$ V/V	2	95%	Yes	Temperature not allowed to vary more than ± 1 °C during test	54212S
					Applied voltage	10 kV to 150 kV								
					Ambient temperature	21 °C ± 2 °C								

## Calibration and Measurement Capabilities

AC voltage ratio	AC divider, resistive (phase)	Comparison with current comparator	1E-04	0.1	rad	Frequency	60 Hz	0.4	$\mu\text{rad}$	2	95%	No	Temperature not allowed to vary more than $\pm 1^\circ\text{C}$ during test	54212S
						Applied voltage	10 kV to 150 kV							
						Ambient temperature	21 $\pm 2^\circ\text{C}$							
AC voltage ratio	AC divider, capacitive (ratio)	Comparison with current comparator	1.000	10E+06		Frequency	40 Hz to 100 Hz	300	$\mu\text{V/V}$	2	95%	Yes	Temperature not allowed to vary more than $\pm 1^\circ\text{C}$ during test	54310S
						Applied voltage	10 kV to 150 kV							
						Ambient temperature	21 $\pm 2^\circ\text{C}$							
AC voltage ratio	AC divider, capacitive (phase)	Comparison with current comparator	1E-04	0.1	rad	Frequency	60 Hz	0.4	$\mu\text{rad}$	2	95%	Yes	Temperature not allowed to vary more than $\pm 1^\circ\text{C}$ during test	54310S
						Applied voltage	10 kV to 150 kV							
						Ambient temperature	21 $\pm 2^\circ\text{C}$							
AC voltage ratio	Voltage transformers (ratio)	Bridge comparison with standard	1	10E+07		Frequency	40 Hz to 100 Hz	30	$\mu\text{V/V}$	2	95%	Yes	Temperature not allowed to vary more than $\pm 1^\circ\text{C}$ during test	54510C
						Applied voltage	$\leq 150 \text{ kV}$							
						Ambient temperature	21 $\pm 2^\circ\text{C}$							
AC voltage ratio	Voltage transformers (phase)	Bridge comparison with standard	1E-06	0.100	rad	Frequency	40 Hz to 100 Hz	0.01	mrad	2	95%	No	Temperature not allowed to vary more than $\pm 1^\circ\text{C}$ during test	54510C
						Applied voltage	$\leq 150 \text{ kV}$							
						Ambient temperature	21 $\pm 2^\circ\text{C}$							
AC current ratio	Current transformers (ratio)	Bridge comparison with standard	0.25/5	12000/5		Frequency	50 Hz to 400 Hz	10	$\mu\text{A/A}$	2	95%	Yes	Typical current transformers warrant $\pm 0.01\%$ to $\pm 0.03\%$	54520C
						Current	$\leq 18 \text{ kA}$							
						Ambient temperature	23 $\pm 2^\circ\text{C}$							
						Relative humidity	$\leq 55\%$							
AC current ratio	Current transformers (phase)	Bridge comparison with standard	-9E-03	9E-03	rad	Frequency	50 Hz to 400 Hz	10	$\mu\text{rad}$	2		No	Typical current transformers warrant $\pm 0.01\%$ to $\pm 0.03\%$	54520C

## Calibration and Measurement Capabilities

						Current	$\leq 18 \text{ kA}$							
						Ambient temperature	$21 \text{ }^{\circ}\text{C} \pm 2 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \%$							
AC ratio	Impulse dividers	Bridge comparison	1	10E+07		Applied voltage	$\leq 300 \text{ kV}$	40	$\mu\text{V/V}$	2	95%	Yes	Temperature not allowed to vary more than $\pm 1 \text{ }^{\circ}\text{C}$ during test	54214S (resistive), 54311S (capacitive), 54410S (Kerr cells)
						Ambient temperature	$21 \text{ }^{\circ}\text{C} \pm 2 \text{ }^{\circ}\text{C}$							
						Waveform	Gaussian w. 10 $\mu\text{s}$ halfwidth or IEEE standard lightning waveform (1.2/50)							
DC voltage	Multimeters and calibrators	Comparison with characterized calibrator (for meter), artefact calibration (for calibrator)	0.1	0.1	V	Load	meter input	4	$\mu\text{V/V}$	2	95%	Yes	Uncertainty expressed relative to the international value of K <sub>90</sub> , not the SI volt	53200S
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 1.5 \text{ }^{\circ}\text{C}$						Gain and offset - each polarity - every range	
						Relative humidity	$\leq 55 \%$							
DC voltage	Multimeters and calibrators	Comparison with characterized calibrator (for meter), artefact calibration (for calibrator)	1	1	V	Load	meter input	2	$\mu\text{V/V}$	2	95%	Yes	Uncertainty expressed relative to the international value of K <sub>90</sub> , not the SI volt	53200S
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 1.5 \text{ }^{\circ}\text{C}$						Gain and offset - each polarity - every range	
						Relative humidity	$\leq 55 \%$							

## Calibration and Measurement Capabilities

DC voltage	Multimeters and calibrators	Comparison with characterized calibrator (for meter), artefact calibration (for calibrator)	10	10	V	Load	meter input	1	$\mu\text{V}/\text{V}$	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{90}$ , not the SI volt	53200S
					Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 1.5 \text{ }^{\circ}\text{C}$							Gain and offset - each polarity - every range	
					Relative humidity	$\leq 55 \text{ \%}$								
DC voltage	Multimeters and calibrators	Comparison with characterized calibrator (for meter), artefact calibration (for calibrator)	100	100	V	Load	meter input	2	$\mu\text{V}/\text{V}$	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{90}$ , not the SI volt	53200S
					Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 1.5 \text{ }^{\circ}\text{C}$							Gain and offset - each polarity - every range	
					Relative humidity	$\leq 55 \text{ \%}$								
DC voltage	Multimeters and calibrators	Comparison with characterized calibrator (for meter), artefact calibration (for calibrator)	1	1	kV	Load	meter input	2	$\mu\text{V}/\text{V}$	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{90}$ , not the SI volt	53200S
					Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 1.5 \text{ }^{\circ}\text{C}$							Gain and offset - each polarity - every range	
					Relative humidity	$\leq 55 \text{ \%}$								
AC voltage: sources	Calibrators	Comparison with artefact calibration	0.1	0.1	V	Frequency	300 Hz	50	$\mu\text{V}/\text{V}$	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{90}$ , not the SI volt	53200S
					Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 1.5 \text{ }^{\circ}\text{C}$								

## Calibration and Measurement Capabilities

						Relative humidity	≤ 55 %							
AC voltage: meters	Multimeters	Comparison with characterized calibrator	0.1	0.1	V	Frequency	300 Hz	50	µV/V	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{90}$ , not the SI volt	53200S
						Ambient temperature	23.0 °C ± 1.5 °C							
						Relative humidity	≤ 55 %							
AC voltage: sources	Calibrators	Comparison with artefact calibration	0.1	0.1	V	Frequency	10 kHz	50	µV/V	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{90}$ , not the SI volt	53200S
						Ambient temperature	23.0 °C ± 1.5 °C							
						Relative humidity	≤ 55 %							
AC voltage: meters	Multimeters	Comparison with characterized calibrator	0.1	0.1	V	Frequency	10 kHz	50	µV/V	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{90}$ , not the SI volt	53200S
						Ambient temperature	23.0 °C ± 1.5 °C							
						Relative humidity	≤ 55 %							
AC voltage: sources	Calibrators	Comparison with artefact calibration	0.1	0.1	V	Frequency	1 MHz	1000	µV/V	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{90}$ , not the SI volt	53200S
						Ambient temperature	23.0 °C ± 1.5 °C							
						Relative humidity	≤ 55 %							
AC voltage: meters	Multimeters	Comparison with characterized calibrator	0.1	0.1	V	Frequency	1 MHz	1000	µV/V	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{90}$ , not the SI volt	53200S
						Ambient temperature	23.0 °C ± 1.5 °C							
						Relative humidity	≤ 55 %							

## Calibration and Measurement Capabilities

AC voltage: sources	Calibrators	Comparison with artefact calibration	1	1	V	Frequency	300 Hz	20	$\mu\text{V}/\text{V}$	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{J90}$ , not the SI volt	53200S
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 1.5 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC voltage: meters	Multimeters	Comparison with characterized calibrator	1	1	V	Frequency	300 Hz	20	$\mu\text{V}/\text{V}$	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{J90}$ , not the SI volt	53200S
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 1.5 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC voltage: sources	Calibrators	Comparison with artefact calibration	1	1	V	Frequency	10 kHz	20	$\mu\text{V}/\text{V}$	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{J90}$ , not the SI volt	53200S
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 1.5 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC voltage: meters	Multimeters	Comparison with characterized calibrator	1	1	V	Frequency	10 kHz	20	$\mu\text{V}/\text{V}$	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{J90}$ , not the SI volt	53200S
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 1.5 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC voltage: sources	Calibrators	Comparison with artefact calibration	1	1	V	Frequency	1 MHz	1000	$\mu\text{V}/\text{V}$	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{J90}$ , not the SI volt	53200S
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 1.5 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							

## Calibration and Measurement Capabilities

AC voltage: meters	Multimeters	Comparison with characterized calibrator	1	1	V	Frequency	1 MHz	1000	$\mu\text{V}/\text{V}$	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{J90}$ , not the SI volt	53200S
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 1.5 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC voltage: sources	Calibrators	Comparison with artefact calibration	10	10	V	Frequency	10 Hz	20	$\mu\text{V}/\text{V}$	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{J90}$ , not the SI volt	53200S
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 1.5 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC voltage: meters	Multimeters	Comparison with characterized calibrator	10	10	V	Frequency	10 Hz	20	$\mu\text{V}/\text{V}$	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{J90}$ , not the SI volt	53200S
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 1.5 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC voltage: sources	Calibrators	Comparison with artefact calibration	10	10	V	Frequency	300 Hz	20	$\mu\text{V}/\text{V}$	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{J90}$ , not the SI volt	53200S
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 1.5 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC voltage: meters	Multimeters	Comparison with characterized calibrator	10	10	V	Frequency	300 Hz	20	$\mu\text{V}/\text{V}$	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{J90}$ , not the SI volt	53200S
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 1.5 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							

## Calibration and Measurement Capabilities

AC voltage: sources	Calibrators	Comparison with artefact calibration	10	10	V	Frequency	10 kHz	20	$\mu\text{V}/\text{V}$	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{J,90}$ , not the SI volt	53200S
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 1.5 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC voltage: meters	Multimeters	Comparison with characterized calibrator	10	10	V	Frequency	10 kHz	20	$\mu\text{V}/\text{V}$	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{J,90}$ , not the SI volt	53200S
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 1.5 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC voltage: sources	Calibrators	Comparison with artefact calibration	10	10	V	Frequency	1 MHz	20	$\mu\text{V}/\text{V}$	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{J,90}$ , not the SI volt	53200S
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 1.5 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC voltage: meters	Multimeters	Comparison with characterized calibrator	10	10	V	Frequency	1 MHz	20	$\mu\text{V}/\text{V}$	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{J,90}$ , not the SI volt	53200S
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 1.5 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC voltage: sources	Calibrators	Comparison with artefact calibration	100	100	V	Frequency	55 Hz	20	$\mu\text{V}/\text{V}$	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{J,90}$ , not the SI volt	53200S
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 1.5 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							

## Calibration and Measurement Capabilities

AC voltage: meters	Multimeters	Comparison with characterized calibrator	100	100	V	Frequency	55 Hz	20	$\mu\text{V}/\text{V}$	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{J90}$ , not the SI volt	53200S
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 1.5 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC voltage: sources	Calibrators	Comparison with artefact calibration	100	100	V	Frequency	1 kHz	20	$\mu\text{V}/\text{V}$	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{J90}$ , not the SI volt	53200S
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 1.5 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC voltage: meters	Multimeters	Comparison with characterized calibrator	100	100	V	Frequency	1 kHz	20	$\mu\text{V}/\text{V}$	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{J90}$ , not the SI volt	53200S
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 1.5 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC voltage: sources	Calibrators	Comparison with artefact calibration	100	100	V	Frequency	100 kHz	500	$\mu\text{V}/\text{V}$	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{J90}$ , not the SI volt	53200S
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 1.5 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC voltage: meters	Multimeters	Comparison with characterized calibrator	100	100	V	Frequency	100 kHz	500	$\mu\text{V}/\text{V}$	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{J90}$ , not the SI volt	53200S
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 1.5 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							

## Calibration and Measurement Capabilities

AC voltage: sources	Calibrators	Comparison with artefact calibration	700	700	V	Frequency	100 kHz	360	$\mu$ V/V	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{90}$ , not the SI volt	53200S
						Ambient temperature	$23.0^{\circ}\text{C} \pm 1.5^{\circ}\text{C}$							
						Relative humidity	$\leq 55\%$							
AC voltage: meters	Multimeters	Comparison with characterized calibrator	700	700	V	Frequency	100 kHz	360	$\mu$ V/V	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{90}$ , not the SI volt	53200S
						Ambient temperature	$23.0^{\circ}\text{C} \pm 1.5^{\circ}\text{C}$							
						Relative humidity	$\leq 55\%$							
DC current: sources	Calibrators	Comparison with artefact calibration	10	10	mA	Ambient temperature	$23.0^{\circ}\text{C} \pm 1.5^{\circ}\text{C}$	10	$\mu$ A/A	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{90}$ and $R_K$ , not the SI.	53200S
						Relative humidity	$\leq 55\%$							
DC current: meters	Multimeters	Comparison with characterized calibrator	10	10	mA	Ambient temperature	$23.0^{\circ}\text{C} \pm 1.5^{\circ}\text{C}$	10	$\mu$ A/A	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{90}$ and $R_K$ , not the SI.	53200S
						Relative humidity	$\leq 55\%$							
DC current: sources	Calibrators	Comparison with artefact calibration	1	1	A	Ambient temperature	$23.0^{\circ}\text{C} \pm 1.5^{\circ}\text{C}$	20	$\mu$ A/A	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{90}$ and $R_K$ , not the SI.	53200S
						Relative humidity	$\leq 55\%$							
DC current: meters	Multimeters	Comparison with characterized calibrator	1	1	A	Ambient temperature	$23.0^{\circ}\text{C} \pm 1.5^{\circ}\text{C}$	20	$\mu$ A/A	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{90}$ and $R_K$ , not the SI.	53200S
						Relative humidity	$\leq 55\%$							

## Calibration and Measurement Capabilities

DC current: sources	Calibrators	Comparison with artefact calibration	10	10	A	Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 1.5 \text{ }^{\circ}\text{C}$	55	µA/A	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{90}$ and $R_K$ , not the SI.	53200S
						Relative humidity	$\leq 55 \text{ \%}$							
DC current: meters	Multimeters	Comparison with characterized calibrator	10	10	A	Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 1.5 \text{ }^{\circ}\text{C}$	55	µA/A	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{90}$ and $R_K$ , not the SI.	53200S
						Relative humidity	$\leq 55 \text{ \%}$							
AC current: sources	Calibrators	Comparison with artefact calibration	10	10	mA	Frequency	5 kHz	100	µA/A	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{90}$ and $R_K$ , not the SI.	53200S
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 1.5 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC current: meters	Multimeters	Comparison with characterized calibrator	10	10	mA	Frequency	5 kHz	100	µA/A	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{90}$ and $R_K$ , not the SI.	53200S
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 1.5 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC current: sources	Calibrators	Comparison with artefact calibration	1	1	A	Frequency	55 Hz	100	µA/A	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{90}$ and $R_K$ , not the SI.	53200S
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 1.5 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							

## Calibration and Measurement Capabilities

AC current: meters	Multimeters	Comparison with characterized calibrator	1	1	A	Frequency	55 Hz	100	µA/A	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{90}$ and $R_K$ , not the SI.	53200S
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 1.5 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC current: sources	Calibrators	Comparison with artefact calibration	1	1	A	Frequency	300 Hz	100	µA/A	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{90}$ and $R_K$ , not the SI.	53200S
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 1.5 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC current: meters	Multimeters	Comparison with characterized calibrator	1	1	A	Frequency	300 Hz	100	µA/A	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{90}$ and $R_K$ , not the SI.	53200S
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 1.5 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC current: sources	Calibrators	Comparison with artefact calibration	1	1	A	Frequency	5 kHz	200	µA/A	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{90}$ and $R_K$ , not the SI.	53200S
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 1.5 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
AC current: meters	Multimeters	Comparison with characterized calibrator	1	1	A	Frequency	5 kHz	200	µA/A	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{90}$ and $R_K$ , not the SI.	53200S
						Ambient temperature	$23.0 \text{ }^{\circ}\text{C} \pm 1.5 \text{ }^{\circ}\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							

## Calibration and Measurement Capabilities

AC current: sources	Calibrators	Comparison with artefact calibration	10	10	A	Frequency	20 kHz	1200	µA/A	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{90}$ and $R_K$ , not the SI.	53200S
						Ambient temperature	23.0 °C ± 1.5 °C							
						Relative humidity	≤ 55 %							
AC current: meters	Multimeters	Comparison with characterized calibrator	10	10	A	Frequency	20 kHz	1200	µA/A	2	95%	Yes	Uncertainty expressed relative to the international value of $K_{90}$ and $R_K$ , not the SI.	53200S
						Ambient temperature	23.0 °C ± 1.5 °C							
						Relative humidity	≤ 55 %							
DC resistance: sources	Calibrators	Comparison with artefact calibration	1	1	Ω	Ambient temperature	23.0 °C ± 1.5 °C	20	µΩ/Ω	2	95%	Yes	Uncertainty expressed relative to the international value of $R_K$ , not the SI ohm	53200S
						Relative humidity	≤ 55 %							
DC resistance: meters	Multimeters	Comparison with characterized calibrator	1	1	Ω	Ambient temperature	23.0 °C ± 1.5 °C	20	µΩ/Ω	2	95%	Yes	Uncertainty expressed relative to the international value of $R_K$ , not the SI ohm	53200S
						Relative humidity	≤ 55 %							
DC resistance: sources	Calibrators	Comparison with artefact calibration	10	10	Ω	Ambient temperature	23.0 °C ± 1.5 °C	8	µΩ/Ω	2	95%	Yes	Uncertainty expressed relative to the international value of $R_K$ , not the SI ohm	53200S
						Relative humidity	≤ 55 %							
DC resistance: meters	Multimeters	Comparison with characterized calibrator	10	10	Ω	Ambient temperature	23.0 °C ± 1.5 °C	8	µΩ/Ω	2	95%	Yes	Uncertainty expressed relative to the international value of $R_K$ , not the SI ohm	53200S
						Relative humidity	≤ 55 %							

## Calibration and Measurement Capabilities

DC resistance: sources	Calibrators	Comparison with artefact calibration	1	1	kΩ	Ambient temperature	23.0 °C ± 1.5 °C	3	μΩ/Ω	2	95%	Yes	Uncertainty expressed relative to the international value of R <sub>K</sub> , not the SI ohm	53200S
						Relative humidity	≤ 55 %							
DC resistance: meters	Multimeters	Comparison with characterized calibrator	1	1	kΩ	Ambient temperature	23.0 °C ± 1.5 °C	3	μΩ/Ω	2	95%	Yes	Uncertainty expressed relative to the international value of R <sub>K</sub> , not the SI ohm	53200S
						Relative humidity	≤ 55 %							
DC resistance: sources	Calibrators	Comparison with artefact calibration	100	100	kΩ	Ambient temperature	23.0 °C ± 1.5 °C	5	μΩ/Ω	2	95%	Yes	Uncertainty expressed relative to the international value of R <sub>K</sub> , not the SI ohm	53200S
						Relative humidity	≤ 55 %							
DC resistance: meters	Multimeters	Comparison with characterized calibrator	100	100	kΩ	Ambient temperature	23.0 °C ± 1.5 °C	5	μΩ/Ω	2	95%	Yes	Uncertainty expressed relative to the international value of R <sub>K</sub> , not the SI ohm	53200S
						Relative humidity	≤ 55 %							
DC resistance: sources	Calibrators	Comparison with artefact calibration	1	1	MΩ	Ambient temperature	23.0 °C ± 1.5 °C	30	μΩ/Ω	2	95%	Yes	Uncertainty expressed relative to the international value of R <sub>K</sub> , not the SI ohm	53200S
						Relative humidity	≤ 55 %							
DC resistance: meters	Multimeters	Comparison with characterized calibrator	1	1	MΩ	Ambient temperature	23.0 °C ± 1.5 °C	30	μΩ/Ω	2	95%	Yes	Uncertainty expressed relative to the international value of R <sub>K</sub> , not the SI ohm	53200S
						Relative humidity	≤ 55 %							

## Calibration and Measurement Capabilities

DC resistance: sources	Calibrators	Comparison with artefact calibration	10	10	MΩ	Ambient temperature	23.0 °C ± 1.5 °C	30	μΩ/Ω	2	95%	Yes	Uncertainty expressed relative to the international value of R <sub>K</sub> , not the SI ohm	53200S
						Relative humidity	≤ 55 %							
DC resistance: meters	Multimeters	Comparison with characterized calibrator	10	10	MΩ	Ambient temperature	23.0 °C ± 1.5 °C	30	μΩ/Ω	2	95%	Yes	Uncertainty expressed relative to the international value of R <sub>K</sub> , not the SI ohm	53200S
						Relative humidity	≤ 55 %							
DC resistance: sources	Calibrators	Comparison with artefact calibration	100	100	MΩ	Ambient temperature	23.0 °C ± 1.5 °C	83	μΩ/Ω	2	95%	Yes	Uncertainty expressed relative to the international value of R <sub>K</sub> , not the SI ohm	53200S
						Relative humidity	≤ 55 %							
DC resistance: meters	Multimeters	Comparison with characterized calibrator	100	100	MΩ	Ambient temperature	23.0 °C ± 1.5 °C	83	μΩ/Ω	2	95%	Yes	Uncertainty expressed relative to the international value of R <sub>K</sub> , not the SI ohm	53200S
						Relative humidity	≤ 55 %							
Impulse spectrum amplitude	Impulse generators. Reference for the unit: 1 pV/MHz	Time domain sampling and Fourier transform	-15	5	dB	Frequency f	f < 100 MHz, 100 MHz < f < 4 GHz, 4GHz < f < 20 GHz	0.6, 0.3, 2.0	dB	2	95%	No	Traceable to the NIST frequency standard and the Josephson effect, but the results rely more on modeling and engineering	65100S
						Maximum input voltage	600 mV							
						Frequency spacing	> 10 MHz							
						Impedance	50 Ω							
						Ambient temperature	23 °C ± 1.5 °C							
						Relative humidity	≤ 55 %							

## Calibration and Measurement Capabilities

Pulse amplitude, $U$	Pulse generators	Time domain sampling	- 0.5	0.5	V	Time	10 ps to 100 ns	$(0.005U + 2E-03)$ , $U$ in V	V	2	95%	No	Baseline, topline, amplitude. Rise time, fall time, duration (50%)	65200S
						Maximum input voltage	600 mV							
						Impedance	50 $\Omega$							
						Ambient temperature	23 °C ± 1.5 °C							
						Relative humidity	≤ 55 %							
Pulse transition duration, $t$	Pulse generators	Time domain sampling	10E-11	10E-07	s	Maximum input voltage	600 mV	$(0.005t + 3)$ , $t$ in s	ps	2	95%	No	Baseline, topline, amplitude. Rise time, fall time, duration (50%)	65200S
						Impedance	50 $\Omega$							
						Ambient temperature	23 °C ± 1.5 °C							
						Relative humidity	≤ 55 %							
Pulse settling	Pulse generators	Time domain sampling	-0.25	0.25	V	Duration from mesial point	1 ns, 10 ns, 100 ns, 1000 ns	10000, 1000, 500, 200	$\mu$ V/V	2	95%	Yes	Baseline, topline, amplitude. Rise time, fall time, duration (50%)	65260S
						Maximum input voltage	2 V							
						Impedance	50 $\Omega$							
						Ambient temperature	23 °C ± 1.5 °C							
						Relative humidity	≤ 55 %							
Pulse settling	Pulse generators	Time domain sampling	-2	2.00	V	Duration from mesial point	1 ns, 10 ns, 100 ns, 1000 ns	5000, 200, 100, 100	$\mu$ V/V	2	95%	Yes	Baseline, topline, amplitude. Rise time, fall time, duration (50%)	65260S
						Maximum input voltage	2 V							
						Impedance	50 $\Omega$							
						Ambient temperature	23 °C ± 1.5 °C							
						Relative humidity	≤ 55 %							
Network impulse response, voltage $U$	Coaxial networks	Time domain and Fourier transform	- 0.5	0.5	V	Time	10 ps to 100 ns	$(0.005U + 0.002)$ , $U$ in V	V	2	95%	No	Baseline, topline, amplitude	65300S
						Impedance	50 $\Omega$							
						Ambient temperature	23 °C ± 1.5 °C							
						Relative humidity	≤ 55 %							

## Calibration and Measurement Capabilities

Network impulse response, duration $t$	Coaxial networks	Time domain and Fourier transform	10E-11	10E-07	s	Impedance	50 Ω	$(0.005t + 3)$ , $t$ in s	ps	2	95%	No	Baseline, topline, amplitude	65300S
						Ambient temperature	$23 \text{ }^\circ\text{C} \pm 1.5 \text{ }^\circ\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							
Time delay interval, $t$	Time interval calibrators and coaxial delay lines	Time domain	10E-12	10E-07	s	Impedance	50 Ω	$(0.002t + 1)$ , $t$ in s	ps	2	95%	No		65400S
						Max. input voltage	600 mV							
						Ambient temperature	$23 \text{ }^\circ\text{C} \pm 1.5 \text{ }^\circ\text{C}$							
						Relative humidity	$\leq 55 \text{ \%}$							